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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,358	04/24/2001	Zheng Chen	MS1-686US	8976

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EXAMINER	
LE, NHAN T	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/843,358	CHEN ET AL.	
	Examiner	Art Unit	
	Nhan T. Le	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained tOuyangugh the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a wOuyangle would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1, 5, 6, 9, 10, 15-17, 19-21, 23, 26, 29, 32, 36, 41, 42, 45-52, 55, 56, 59 , 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444) further in view of Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976).

As to claims 1, 17, 21, 29, 36, 45-52, Ouyang teaches Chinese input method comprising: a keypad of number keys (see fig. 1, number 100, col. 7, lines 10-45); a language system to receive an input string entered via the keypad that is representative of one or more phonetic characters and generate likely language characters based on the input string (see fig. 1, numbers 400, 600, 700, col. 7, lines 10-45); a display to present the likely language characters for user selection (see fig. 1, number 200, col. 2, lines 10-45); Ouyang fails to teach the language system being configured to facilitate input of the input string and selection of a language character without switching modes between input and selection. Chen teaches the language system being configured to facilitate input of the input string and selection of a language character (see fig. 1, number 16, col. 2, lines 10-35, lines 59-67, col. 3, lines 33-46). Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Chen into the system of Ouyang in order to speed up the language conversion process. The combination of Ouyang and Chen fails to teach wherein the number key having associated letters. Connelly teaches wherein the number key having associated letters (see fig. 2, col. 1, lines 15-39). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Connelly into the system of Ouyang and Chen in order to provide user an improved method for entering characters on numeric keypad. The combination of Ouyang, Chen and Connelly fails to teach wherein the language system is configured to facilitate input without switching modes between input and selection. Mukaigawa teaches a language system wherein the input data being entered is reduced for each character by the language identification program and the occurrence identification data is found for each combination of the language (see fig. 4, col. 8, lines 53-65, fig. 14, col. 12, lines 66-67, col. 13, lines 1-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Mukaigawa into the system of Ouyang, Chen and Connelly in order to facilitate the user input.

As to claims 5, 19, 32, 41, 55, the claims are rejected as to claim 1 above.

As to claim 6, 42, 56, the combination of Ouyang, Chen, Connelly and Mukaigawa teaches the device, wherein the language system includes a sentence-based search engine to derive the language characters based on context of the input string within one or more words of a common sentence (see Chen col. 4, lines 45-51).

As to claim 9, the claim is rejected as to claim 1 above.

As to claims 10, 59, the claims are rejected as to claim 1 above.

As to claim 15, the combination of Ouyang, Chen, Connelly and Mukaigawa teaches a scroll control key to present other likely language character (see Chen col. 3, lines 50-67).

As to claims 16, 20, 23, 26, 60, the combination of Ouyang, Chen, Connelly and Mukaigawa teaches a mobile device embodied as a mobile phone (see Chen col. 2, lines 10-35).

2. Claims 2, 7, 18, 22, 24, 30, 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444), Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976) further in view of Chen (US 6,073,146).

As to claims 2, 18, 22, 30, the combination of Ouyang, Chen, Connelly and Mukaigawa teaches a mobile device, wherein the phonetic characters are Chinese Pinyin and the language characters. The combination of Ouyang and Chen fais to teach wherein the language character is Chinese Hanzi. Chen teaches wherein the language character is Chinese Hanzi (see Chen Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Chen into the system of Ouyang, Chen, Connelly and Mukaigawa in order to process phonetic Chinese text and Hanzi.

As to claims 7, 24, 57, the combination of Ouyang, Chen, Connelly and Mukaigawa and Chen teaches a mobile device, wherein the language system includes

a language model to statistically derive the language characters; converts the phonetic characters to the language characters (see Chen Abstract, col. 18, lines 45-53).

3. Claims 3, 4, 31, 32, 37, 39, 40, 53, 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444), Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976) further in view of Griffin et al (US 6,489,950).

As to claims 3, 4, 31, 32, 37, 39, 40, 53, 54, the combination of Ouyang, Chen, Connelly and Mukaigawa fails to teach wherein the likely language characters are presented on the display in an index that associates selection keys of the keypad with the language characters so that user entry of a selection key results in a selection of a corresponding language character and user entry of a non-selection key results in further input; the selection keys being selected based on whether the letters associated therewith follow the phonetic characters already entered. Griffin teaches wherein the likely language characters are presented on the display in an index that associates selection keys of the keypad with the language characters so that user entry of a selection key results in a selection of a corresponding language character and user entry of a non-selection key results in further input; the selection keys being selected based on whether the letters associated therewith follow the phonetic characters already entered (see col. 10, lines 5-46). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Griffin into the system of Ouyang, Chen, Conelly and Mukaigawa in order to minimize the number of keystrokes.

4. Claims 8, 28, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444), Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976) further in view of Kantrowitz (US 6,292,772).

As to claims 8, 28, 58, the combination of Ouyang, Chen, Connelly and Mukaigawa fails to teach a mobile device, wherein the language system includes a character-based bigram language model and a word-based N-gram language model, where N>2. Kantrowitz teaches a character-based bigram language model and a word-based N-gram language model, where N>2 (see col. 2, line 50- col.3, line5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kantrowitz into the system of Ouyang, Chen, Conelly and Mukaigawa in order to identify the language of individual words in isolation with high accuracy.

5. Claims 11-13, 34, 35, 43, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444), Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976) further in view of Kiraz (US 6,272,464).

As to claims 11, 12, 13, 34, 35, 43, 44, the combination of Ouyang, Chen, Connelly and Mukaigawa fails to teach the device as recited wherein the language system comprises: a first name model to detect first names in the input string; a surname model to detect surnames in the input string; and a character-based bigram language model. Kiraz teaches a first name model to detect first names; a surname model to detect surnames; and a character-based bigram language model (see col. 4, line 49- col. 5, line 15 col. 6, line 61- col. 7, line 10). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Kiraz into the system of Ouyang, Chen, Connelly and Mukaigawa in order to identify potential language origins of the name.

6. Claims 14, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouyang (US 6,674372) in view of Chen (US 6,009,444), Connolly et al (US 6,005,495), Mukaigawa (US 6,246,976) further in view of Matsuzuka et al (US 5,838,972).

As to claims 14, 27, the combination of Ouyang, Chen, Connelly and Mukaigawa teaches the device, wherein the language system comprises: a resident language model residing on the mobile device to statistically derive the language characters using a first statistical language model (see fig. 4, number 420, col. 11, line 65- col. 12, line 6). The combination of Ouyang and Chen fails to teach a nonresident language model residing on a remote server, communicatively coupled to the mobile device, to statistically derive the language characters using a second statistical language model. Matsukara teaches a nonresident language model residing on a remote server to statistically derive the language characters using a second statistical language model (see col. 1, line 47- col. 2, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Matsukara into the system of Ouyang, Chen, Connelly and Mukaigawa in order to provide additional server due to a large dictionary of words.

Response to Arguments

Applicant's arguments with respect to claims 1-60 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N. Le

Nhan Le

Nguyen Vo
5-14-2006

NGUYEN T. VO
PRIMARY EXAMINER